Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of **Extending Wireless Telecommunications Services To Tribal Lands**	**WT Docket No. 99-266**

To: The Commission

COMMENTS OF MOTOROLA, IRIDIUM NORTH AMERICA, AND IRIDIUM LLC

Motorola, Inc. ("Motorola"), Iridium U.S., L.P. d/b/a Iridium North America ("INA"), and Iridium LLC ("Iridium"), by their attorneys, hereby submit these comments in response to the Notice of Proposed Rulemaking ("NPRM") issued in the above-captioned proceeding.[1] Space System License, Inc., a wholly-owned subsidiary of Motorola, has been licensed by the FCC to construct, launch and operate the Iridium system, a global mobile satellite service ("MSS") system comprised of 66 operational satellites in low-earth orbit.[2] Motorola is also a major manufacturer of mobile radio devices including Iridium system handsets as well as cellular, PCS, private radio and public safety equipment. Iridium LLC is the commercial operator

[1] *In the Matter of Extending Wireless Telecommunications Services to Tribal Lands*, Notice of Proposed Rulemaking, WT Docket No. 99-266, FCC 99-205 (rel. Aug. 18, 1999), 64 Fed. Reg. 49,128 (Sep. 10, 1999) (all citations to the NPRM hereinafter refer to FCC 99-205 as released on Aug. 18, 1999).

[2] *See Application of Motorola Satellite Communications, Inc. for Authority to Construct, Launch and Operate a Low Earth Orbit Satellite System in the 1616-1626.5 MHz Band*, Order and Authorization, 10 FCC Rcd. 2268 (Int'l Bureau 1995), Erratum, 10 FCC Rcd 3925 (1995), Modification, 11 FCC Rcd. 13952 (1996), *reconsideration denied*, 11 FCC Rcd. 18502 (1996).

of the Iridium system and applicant for authority to launch and operate the MACROCELL system in the 2 GHz band. INA is a common carrier that offers Iridium services in North America. The Iridium system has the capability of providing voice, fax, paging, and low rate data transfer services to virtually any location on earth including tribal lands and all other areas currently underserved or unserved by telecommunications services in the United States and its territories. The MACROCELL system will offer similar service capabilities.

I. BACKGROUND

Congress has directed the Commission to develop rules and policies to help ensure that all Americans have access to affordable telecommunications services.[3] While telephone subscribership in the United States is currently at a relatively high level (94%), American Indians who reside on tribal lands have not enjoyed the full range of benefits of the telecommunications revolution. In fact, the average telephone subscription rate for Indians living on tribal lands is less than 50%, and numerous Indian communities remain completely unserved.[4]

All unserved areas in the U.S. should have affordable basic telecommunications services as soon as possible. As the Commission indicated, "telephone service is a necessity in our modern society."[5] A lack of basic telecommunication services subjects people to significant medical risks, hinders employees' ability to find and retain jobs, reduces the quality and

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[3] *Telecommunications Act of 1996*, Pub. L. No. 104-104, § 706, 110 Stat. 153, (1996) (codified at 47 U.S.C. § 157).

[4] NPRM, *Separate Statement of Commissioner Gloria Tristani*, FCC 99-205, at 38.

[5] NPRM, ¶ 2.

efficiency of the education system, increases law enforcement response times, and silences the citizens' political voice.[6]

In order to fulfill its Congressional mandate, the Commission has initiated this rulemaking proceeding – WT Docket No. 99-266[7] – and issued a related Further Notice of Proposed Rule Making in CC Docket No. 96-45.[8] In both proceedings, the Commission seeks comment on ways to provide much needed telecommunications services to underserved and unserved areas in the U.S., including Indian tribal lands.

In its NPRM, the Commission focuses on developing policies to encourage wireless and satellite telecommunications service providers to deploy telecommunications services in tribal lands and unserved areas in the U.S. The Commission specifically asks

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[6] *Id.*

[7] NPRM, FCC 99-205.

[8] In the Matter of, *Federal State Joint Board on Universal Service: Promoting Deployment and Subscribership in Unserved and Underserved Areas, Including Tribal and Insular Areas*, Further Notice of Proposed Rulemaking, CC Docket No. 96-45, FCC 99-204 (rel. Sep. 3, 1999), 64 Fed. Reg. 52,738 (Sep. 30, 1999) ("FNPRM") (all citations to the FNPRM hereinafter refer to FCC 99-204 as released on Sept. 3, 1999). This proceeding addresses issues relating to proposed changes in the administration and implementation of the Universal Service Fund ("USF") in order to accelerate the provision of telecommunication services to unserved areas in the U.S. and to tribal lands. Motorola , INA and Iridium anticipate filing comments in this proceeding as well.

The Commission has addressed this issue less expansively on prior occasions. *See e.g., Notice of the Second Hearing in a Series of Hearings about Telephone Service for Indians on Reservations, and a Request for Comment from the General Public about Issues relevant to that Subject*, 64 F.R. 12809 (Mar. 15, 1999) ("Telephone Service for Indians on Reservations"); In the Matter of *The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, 64 F.R. 16880 (Apr. 17, 1999) ("2 GHz Proceedings"); Comments of Motorola (May 28, 1999) *in* Telephone Service for Indians on Reservations (supporting the Commission's efforts toward delivery of cost effective telecommunications services to unserved areas); Comments of Iridium LLC (Jun. 24, 1999) *in* 2 GHz Proceedings (urging the Commission to encourage delivery of telecommunications services to unserved areas by use of incentives that are unrelated to satellite licensing policies).

whether adopting policies that encourage use of satellite technology (or combined satellite-wireless technology) could provide incentives for carriers to bring services to tribal lands or other unserved areas.[9] Motorola, INA, and Iridium strongly believe that satellite technology, alone or in conjunction with wireless or wireline technologies, represents the most viable means for bringing the promise of modern telecommunication services to tribal lands and other unserved areas today.

II. THE IRIDIUM SYSTEM CAN EFFICIENTLY PROVIDE TELECOMMUNICATIONS SERVICES TO TRIBAL LANDS AND OTHER UNSERVED AREAS TODAY

The Commission specifically seeks comment on the effectiveness of satellite technologies for serving tribal lands and other unserved areas in the United States. The Iridium system can provide communications services to these areas today, offering an immediate solution to the Commission's goal of bringing affordable telecommunications services to Indians on tribal lands.

The Iridium system is a satellite-based network fully capable of offering voice, fax, paging, and low rate data transfer services to tribal communities in geographically remote areas where rough terrain renders terrestrial service of any other kind impractical and inordinately expensive. The Iridium system is, therefore, ideally positioned to provide an immediate solution to the technical and economic challenges of providing telecommunications services to tribal lands.[10]

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[9] NPRM, ¶ 4.

[10] Iridium's MACROCELL system and other proposed MSS systems will also provide coverage to unserved and underserved areas.

A. Satellite Telephones Are Available Now to Provide Iridium Services

Iridium handheld portable satellite telephones (single and dual-mode handheld telephones), mobile telephones, MXUs[11] and pagers are now available to provide a broad range of telecommunications services to residents of unserved areas. These terminals can be used in vehicles as emergency dispatch telephones; in central locations to serve groups, perhaps on a payphone-like basis; or in individual residences. The Iridium network is an operating satellite system that can offer telecommunications services to tribal areas today using any of these terminals.

B. Dual-Mode Satellite Telephones Can Provide Additional Capabilities to Residents of Rural Areas

In some tribal lands and other unserved areas, a combination of wireless and satellite technologies could provide a broader and more economical range of services. Dual-mode telephones permit automatic access to wireless facilities when rural residents travel to a more populated area allowing the use of terrestrial systems to supplement the satellite service. Such dual-mode Iridium telephones are already in use and are readily adaptable to virtually any authorized local wireless network, allowing Iridium subscribers to roam on those networks.

[11] A MultiExchange Unit ("MXU") is a multi-channel unit that can be used in various specialized applications such as connecting existing telephone equipment associated with a Private Branch Exchange (PBX) or Public Switched Telephone Network (PSTN) to the Iridium network. It could provide the platform for pay telephone service to an Indian reservation service area. In addition to fixed applications, some MXU products are designed for portable applications and some for mobile usage as in the case of maritime applications. In some locations that do not offer unobstructed access to the Iridium satellite, such as in an office building, an external antenna can be used to augment reception.

C. Iridium Can Provide Telecommunications Services Without Adversely Affecting Indian Culture, Religion or Tranquility

Satellite telephones also constitute the least intrusive method of providing telecommunications services to tribal lands.[12] The open landscape environment on many Indian reservations plays a central role in Indian culture and some Indian religions. Numerous traditional tribes believe the existing environment has spiritual as well as physical qualities. The universe is defined as a living system that contains both material and spiritual parts, and changes to the material parts alter the spiritual parts. Placing terrestrial wireline or wireless towers across this land could jeopardize the essence of the environment necessary for conservation of Indian culture and religion. This may help explain prior resistance of telecommunications services on some Indian reservations.[13]

Most mobile-satellite services would not require any significant construction on the reservations; the only required hardware for the Iridium system is the satellite telephone or pager itself. The Iridium handheld portable telephones and pagers can be used outdoors without affecting the environment. Fixed terminals can be used indoors, supporting the preservation of the Indian reservation environment and landscape. Satellite telephones also avoid grueling legal battles regarding jurisdictional authority and eminent domain issues for building terrestrial

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[12] While this issue was not directly addressed in the NPRM, it is a relevant and important issue that warrants the Commission's consideration. Comments of Motorola, at 1 (May 28, 1999) *in* Telephone Service for Indians on Reservations.

[13] *AB Fillins, Petition for a Declaratory Ruling Preempting the Authority of the Tohono O'odham Legislative Council to Regulate the Entry of Commercial Mobile Radio Service to the Sells Reservation Within the Tucson MSA,* Market No. 77, *Memorandum Opinion and Order*, 12 FCC Rcd 11755 (1997) (affirming a tribal legislative council's decision to prevent the location of cellular sites on its tribal lands).

infrastructure on a reservation.[14] Furthermore, satellite telephones avoid the possible desecration of known and undiscovered sacred sites such as ancient Indian burial grounds.

III. POLICIES TO ENCOURAGE SATELLITE CARRIERS TO EXTEND SERVICE TO TRIBAL LANDS AND UNSERVED AREAS SHOULD RELY ON UNIVERSAL SERVICE FUND SUPPORT

The Commission asks in this proceeding how telecommunications services licensees and providers, including satellite operators, can overcome the economic barrier of affordability for residents without any special discounts or subsidies.[15] Generally, the economies of many Indian reservations appear unable to support state-of-the-art telecommunications services, whether wireline, wireless or satellite. Reliance on USF support appears to represent the only economically sound method of providing affordable telecommunications services to communities in these unserved areas. Competitive use of USF funds, for example, could drive market forces that will enable satellite and terrestrial service providers to deploy basic telecommunications services to unserved areas in the most efficient manner.[16]

IV. THE COMMISSION SHOULD NOT RELY ON LICENSING-BASED INCENTIVES FOR MSS APPLICATIONS

The Commission seeks comment on several licensing-based incentives that would reward telecommunications licensees who provide or contract to provide telecommunications services on Indian reservations. INA, Motorola, and Iridium support the Commission's goal to

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[14] *See Id.*

[15] NPRM, ¶ 56.

[16] INA and Motorola plan to submit more extensive comments focusing on the USF in response to the Commission's FNPRM, which addresses proposals to change eligibility criteria under Part 54 of the Rules to encourage the provision of telecommunications services on tribal lands and other unserved areas. FNPRM, ¶ 9.

encourage delivery of cost-effective telecommunications services to unserved areas. However, in the case of MSS, which inherently provides coverage of unserved and underserved areas, such incentives would not be warranted. MSS licensees in almost every instance provide only bulk transmission capacity. They do not provide or propose to provide retail services to end-users. Rather, such services are customarily provided by terrestrial gateway operators such as INA and their resellers. Accordingly, any incentives intended to ensure that remote communities receive access to MSS services appropriately should be directed to the end-user service provider and not the space segment licensees.[17]

In any case, incentives such as bidding credits for license purchases will not ensure that tribal lands receive long-term economical telecommunications services. Without continuing subsidies, providing such services to many tribal lands is simply not likely to be profitable. The Commission suggests that this problem could be ameliorated by requiring that bidding credits be spent on building infrastructure.[18] However, this approach is more likely to encourage service providers to direct capital investment toward tribal lands that are relatively heavily populated, e.g., villages or groupings of homes. Areas with sparse population densities – those that have the greatest need for telecommunications services and financial assistance – will not benefit from credits at all unless the Commission imposes strict build-out requirements and assures continuing infrastructure and service subscription credits. Iridium service providers such as INA and its resellers, on the other hand, do not need further infrastructure credits because their services can already be accessed with handsets and pagers at all times throughout tribal lands and

[17] *See* Comments of Iridium LLC, at 47-50 (Jun. 24, 1999) *in* 2 GHz Proceedings.

[18] NPRM, ¶ 52.

unserved areas.[19] The only subsidy necessary to make Iridium services affordable to tribal communities is through USF grants for purchase of telephones and subscription support, not capital construction.

Further, any proposed incentives for terrestrial services that include increased antenna height and power limits must include consideration of the potential for interference to existing satellite services, as well as analysis of the possible impact on development of future satellite services.

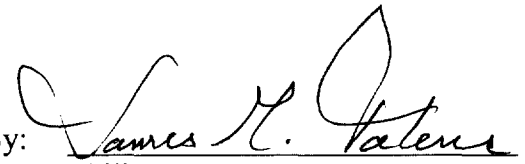
V. CONCLUSION

The Iridium system provides global telecommunications services and is accessible to all areas in the U.S. currently unserved by telecommunications carriers. With USF support, INA can provide Iridium services to tribal lands and other unserved areas in the U.S. on an economical basis. Further, Motorola, INA and Iridium urge the Commission not to rely on

[19] Carriers attempting to provide services based on infrastructure credits alone will be faced with marginal or negative returns, forcing them to reduce or eliminate service entirely.

licensing-based incentives to promote satellite telecommunications services on tribal lands because such incentives are more appropriately directed to the end-user service provider.

Respectfully submitted,

By: 

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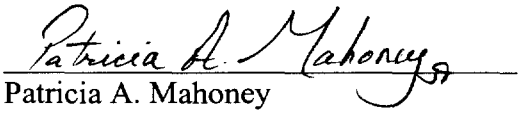
By: 

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